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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,971	09/13/2001	Yasunaga Hamada	381NT/49740	3553

23911 7590 05/22/2003

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EXAMINER

KEASEL, ERIC S

ART UNIT	PAPER NUMBER
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3754

DATE MAILED: 05/22/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/763,971

Applicant(s)

HAMADA ET AL.

Examiner

Eric Keasel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 9-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 Sep 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 9-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected groups, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 4.

Information Disclosure Statement

3. The references cited in the Search Report have been considered, but will not be listed on any patent resulting from this application because they were not provided on a separate list in compliance with 37 CFR 1.98(a)(1). In order to have the references printed on such resulting patent, a separate listing, preferably on a PTO-1449 form, must be filed within the set period for reply to this Office action.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Shirabe et al. (JP62-225,760 A).

Shirabe et al. disclose an electromagnetic fuel injection valve with the bobbin (2a) made of a synthetic nylon resin containing a metal filler with high heat conductivity.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leiber (US Patent Number 4,785,848) in view of Suzuki et al. (US Patent Number 6,130,279).

Leiber discloses an electromagnetic fuel injection valve with bobbin (31), yoke (3), and an air gap therebetween. Leiber is silent as to the material selection of the bobbin. Suzuki et al. disclose using PPS and glass fiber resin with 55-85% alumina filler to produce a resin molding

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material with a heat conductivity of at least 1.5 W/mK. Suzuki et al. disclose one of the intended uses of this material as being for automotive parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the PPS and glass fiber resin with 55-85% alumina filler of Suzuki et al. as the material choice for the bobbin of Leiber in order to have a molded article with good thermal conductivity as taught by Suzuki et al. Re 30-80 % and 1.0-3.0 W/mK, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the ranges set forth in claims 4 and 6, since such ranges overlap the ranges set forth in the prior art (see MPEP 2144.05).

8. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leiber (US Patent Number 4,785,848) in view of Suzuki et al. (WO98/16585).

Leiber discloses an electromagnetic fuel injection valve with bobbin (31), yoke (3), and an air gap therebetween. Leiber is silent as to the material selection of the bobbin. Suzuki et al. disclose using PPS and glass fiber resin with 55-85% alumina filler to produce a resin molding material with a heat conductivity of at least 1.5 W/mK. Suzuki et al. disclose one of the intended uses of this material as being for automotive parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the PPS and glass fiber resin with 55-85% alumina filler of Suzuki et al. as the material choice for the bobbin of Leiber in order to have a molded article with good thermal conductivity as taught by Suzuki et al. Re 30-80 % and 1.0-3.0 W/mK, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the ranges set forth in claims 4 and 6, since such ranges overlap the ranges set forth in the prior art (see MPEP 2144.05).

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9. Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakado et al. (US Patent Number 5,992,391) in view of Suzuki et al. (US Patent Number 6,130,279).

Yamakado et al. disclose an electromagnetic fuel injector that injects directly into the cylinder of the internal combustion engine (see Fig. 20). Battery (2) voltage is provided to multiple coils (11 and 12) to produce the opening and holding currents (see Fig. 4). Yamakado et al. are silent as to the material selection of the bobbin. Suzuki et al. disclose using PPS and glass fiber resin with 55-85% alumina filler to produce a resin molding material with a heat conductivity of at least 1.5 W/mK. Suzuki et al. disclose one of the intended uses of this material as being for automotive parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the PPS and glass fiber resin with 55-85% alumina filler of Suzuki et al. as the material choice for the bobbin of Yamakado et al. in order to have a molded article with good thermal conductivity as taught by Suzuki et al. Re 30-80 % and 1.0-3.0 W/mK, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the ranges set forth in claims 4 and 6, since such ranges overlap the ranges set forth in the prior art (see MPEP 2144.05).

10. Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamakado et al. (DE 198 28 672 A1) in view of Suzuki et al. (WO98/16585).

Yamakado et al. disclose an electromagnetic fuel injector that injects directly into the cylinder of the internal combustion engine (see Fig. 20). Battery (2) voltage is provided to multiple coils (11 and 12) to produce the opening and holding currents (see Fig. 4). Yamakado

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et al. are silent as to the material selection of the bobbin. Suzuki et al. disclose using PPS and glass fiber resin with 55-85% alumina filler to produce a resin molding material with a heat conductivity of at least 1.5 W/mK. Suzuki et al. disclose one of the intended uses of this material as being for automotive parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the PPS and glass fiber resin with 55-85% alumina filler of Suzuki et al. as the material choice for the bobbin of Yamakado et al. in order to have a molded article with good thermal conductivity as taught by Suzuki et al. Re 30-80 % and 1.0-3.0 W/mK, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the ranges set forth in claims 4 and 6, since such ranges overlap the ranges set forth in the prior art (see MPEP 2144.05).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hoshi, Babitzka, and Romann et al. disclose similar fuel injectors.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Keasel whose telephone number is (703) 308-6260. The examiner can normally be reached on Monday-Thursday.

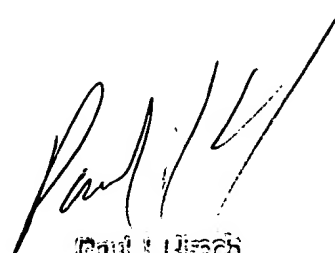
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (703) 308-2696. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

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May 18, 2003

A handwritten signature in black ink, appearing to read "Paul J. Hirsch", written over a horizontal line.

Paul J. Hirsch
Primary Examiner